Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

    1 (Currently amended).   Circuitry for generating a sequence of probable symbols from a sequence of received symbols using Reduced State Sequence Estimation, comprising:

    butterfly circuitry for computing terms in butterfly structure of $sm_1' = \min\{sm_1 + m, sm_2 - m\}$ and $sm_2' = \min\{sm_1 - m, sm_2 + m\}$; and

    circuitry for computing multiple path metrics between a first state and a second state responsive to the received symbols and reference constellation symbols and ~~determining a best scenario~~ <u>calculating a best path metric</u> at the second state using <u>the output</u> said butterfly circuitry.

    2 (Original). The circuitry of claim 1 and further comprising circuitry for rotating said received symbols by a predetermined angle.

    3 (Original). The circuitry of claim 1 and further comprising circuitry for rotating said reference constellation symbols by a predetermined angle.

    4 (Currently amended).   The circuitry of claims 2 ~~and~~ <u>or</u> 3 wherein said predetermined angle is $(2k+1)*\pi/8$ with k being an whole number.

    5 (Original). The circuitry of claim 1 and wherein said reference constellation is an 8-PSK constellation, circuitry for expressing axis symbols of the constellation as a function of diagonal symbols in order to assure symmetrical properties for use of the butterfly circuitry.

    6 (Currently amended).   A method of generating a sequence of probable symbols from a sequence of received symbols using Reduced State Sequence Estimation, comprising the steps of:

computing multiple path metrics between a first state and a second state responsive to said sequence of received symbols using a butterfly ~~structure of~~ <u>circuit for computing</u> $sm_1' = \min\{sm_1 + m, sm_2 - m\}$ and $sm_2' = \min\{sm_1 - m, sm_2 + m\}$; and

~~determining a best scenario~~ <u>calculating a best path metric</u> at the second state using <u>the output of</u> said butterfly ~~structure~~ <u>circuit</u>.

7 (Original). The method of claim 6 and further comprising the step of rotating said received symbols by a predetermined angle.

8 (Original). The method of claim 6 and further comprising the step of rotating said reference constellation symbols by a predetermined angle.

9 (Currently amended).   The method of claims 7 ~~and~~ <u>or</u> 8 wherein said predetermined angle is $(2k+1)*\pi/8$ with k being a whole number.

10 (Original). The method of claim 6 wherein the reference constellation is an 8-PSK constellation, and further comprising the step of expressing axis symbols of the constellation as a function of diagonal symbols in order to assure symmetrical properties for use of the butterfly circuitry.